REMARKS

Claims 24 and 25 have been amended.

No Claims have been cancelled.

Claims 1-25 are currently pending in this application.

Claims 1, 12, 13, 17, 18, 23, 24, and 25 are in independent format.

1.   Rejections Under 35 U.S.C. § 102(b)

The Examiner's rejection of Claims 1, 3-5, 7, 12, 17-21, and 23 under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 6,085,428 to *Casby et al.* is respectfully traversed.

The MPEP at Section 2131 provides:

> "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegall Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631 2 USPQ2d 1051, 1053 Fed. Cir. 1987). "The identical invention must be shown in as complete detail as in the … claim." *Richardson v. Suzuki Motor Co.* 868 F2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

a.   Claim 1

Contrary to the Examiner's statement that all elements of Claim 1 are disclosed in the '428 *Casby et al.* reference, the required element of a central processing unit configured with at least one software object adapted to process data representative of voice audio input *to identify one or more spoken commands* is not; hence, the rejection of Claim 1 under 35 U.S.C. § 102(b) is unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as

a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). Processing of voice audio input from the microphone 10 to identify individual spoken commands is handled by the speech processor module 58, which then communicates digital signals representative of identified spoken commands to the main CPU 68. (Col. 3, lines 46-52; Col. 4, lines 8-41). Hence, in the '428 *Casby et al.* reference, the task of processing voice audio input to identify one or more spoken commands is handled by the discrete speech processor module 58, and not by software modules in the main CPU 68.

b. Claim 12

Contrary to the Examiner's statement that all elements of Claim 12 are disclosed in the '428 *Casby et al.* reference, the required element of a central processing unit configured as set forth in the elements of Claim 12 is not; hence the rejection of Claim 12 under 35 U.S.C. § 102(b) is unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). Processing of voice audio input from the microphone 10 to identify individual spoken commands is handled by the speech processor module 58, which then communicates digital signals representative of identified spoken commands to the main CPU 68. (Col. 3, lines 46-52; Col. 4, lines 8-41). Hence, in the '428 *Casby et al.* reference, the main CPU 68 is not configured to identify one or more spoken commands from received voice audio. Similarly, the main CPU 68 is not configured to identify an operational context in which the voice audio input is received. Rather, the CPU 68 merely "transmits the

corresponding digital instructions to the appropriate component of the automotive service system." (Col. 4, lines 22-25).

c.   Claim 17

Contrary to the Examiner's statement that all elements of Claim 17 are disclosed in the '428 *Casby et al.* reference, the required element of a central processing unit configured with at least one software object to generate at least one voice audio output signal is not; hence, the rejection of Claim 17 under 35 U.S.C. § 102(b) is unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). The speech processor module 58 can generate audio signals by playing back pre-recorded voice messages store in memory, or alternatively, can be adapted to convert digital data received from the main CPU 68 into synthesized voice audio signals. (Col. 4, lines 25-33). Hence, in the '428 *Casby et al.* reference, the task of generating voice audio output is handled by the discrete speech processor module 58, and not by software modules in the main CPU 68.

d.   Claim 18

Contrary to the Examiner's statement that all elements of Claim 18 are disclosed in the '428 *Casby et al.* reference, the required steps of communicating to, and processing a voice audio command with a software object at a central processing unit are not; hence, the rejection of Claim 18 under 35 U.S.C. § 102(b) is unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). Audio signals are communicated from a microphone 10 to the speech processing module 58, where they are processed to identify corresponding digital signals for subsequent communication to the main CPU 68. The voice audio signals in the '428 *Casby et al.* reference are not communicated to a software object at the main CPU 68, and are not processed by a software object at the main CPU 68.

e.   Claim 23

Contrary to the Examiner's statement that all elements of Claim 23 are disclosed in the '428 *Casby et al.* reference, none of the required steps of the claim are present; hence, the rejection of Claim 23 under 35 U.S.C. § 102(b) is unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). Audio signals are communicated from a microphone 10 to the speech processing module 58, where they are processed to identify corresponding digital signals for subsequent communication to the main CPU 68. (Col. 4, lines 8-25). The speech processing module 58 does not "issue appropriate instructions", rather, it conveys digital signals which are selected in response to an evaluation of the received voice audio signals to the main CPU 68. The voice audio signals themselves in the '428 *Casby et al.* reference are not communicated to a software object at the main CPU 68, and are not processed by a

software object at the main CPU 68. The '428 *Casby et al.* reference further fails to disclose the additional steps of identifying a current operating context for the vehicle wheel alignment system, and associating one or more actions corresponding to the current operating context with the communicated voice audio commands.

f.   Claims 3 and 4

Contrary to the Examiner's statement that all elements of dependent Claims 3 and 4 are disclosed in the '428 *Casby et al.* reference, the required element of a central processing unit configured with at least one software object adapted to process data representative of voice audio input *to identify one or more spoken commands* (as set forth in parent Claim 1) is not; hence, the rejection of both Claims 3 and 4 under 35 U.S.C. § 102(b) is unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

g.   Claim 5

Contrary to the Examiner's statement that all elements of Claim 5 are disclosed in the '428 *Casby et al.* reference, in addition to the previously discussed required elements of parent Claim 1, the required element of a software object configured to parse data representative of voice audio input and to extract one or more commands is not; hence, the rejection of Claim 5 under 35 U.S.C. § 102(b) is unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). The Examiner's statements on pages 5-6 acknowledge that in the '428 *Casby et al.* reference, the

speech processor module 58 processes the input signal and extracts speech parameters for comparison against speech models stored in a memory, and not a *software object* operating in the main CPU 68, such as required by the limitations of Claim 5.

h.   Claim 7

Contrary to the Examiner's statement that all elements of dependent Claim 7 are disclosed in the '428 *Casby et al.* reference, the required element of a central processing unit configured with at least one software object adapted to process data representative of voice audio input *to identify one or more spoken commands* (as set forth in parent Claim 1) is not; hence, the rejection of Claim 7 under 35 U.S.C. § 102(b) is unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

i.   Claims 19-21

Contrary to the Examiner's statement that all elements of dependent Claims 19-21 are disclosed in the '428 *Casby et al.* reference, the required steps of communicating to, and processing a voice audio command with a software object at a central processing unit are not; hence (as set forth in parent Claim 18) are not; hence, the rejections of Claim 19-21 under 35 U.S.C. § 102(b) are unsupported by the '428 *Casby et al.* reference, and should be withdrawn.

Furthermore, with respect to Claims 19 and 20, the '428 *Casby et al.* reference fails to disclose steps in a method for controlling a vehicle wheel alignment system wherein alignment angle information (Claim 19) or alignment angle adjustment instructions (Claim 20) are presented to an operator on a display responsive to the processing of a voice audio command. The '428 *Casby et al.* reference states simply

that the CPU 68 transmits digital instructions to the appropriate component of the automotive service system when a match to a digital signal is found. (Col. 4, lines 23-25). During operation the '428 *Casby et al.* communicates alignment angle information and alignment angle adjustment instructions to an operator via voice audio messages (Col. 4, lines 51-67), not via a display in response to voice audio commands.

2.   Rejections Under 35 U.S.C. § 103(a)

a.   Claim 24

The rejection of Claim 24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,556,971 to *Rigsby et al.* in view of U.S. Patent No. 6,185,309 to *Attias* is respectfully traversed.

The '971 *Rigsby et al.* reference is directed towards a method for training a speech recognition system to identify operator spoken commands. The '971 *Rigsby et al.* reference is implemented in one embodiment with a vehicle service system (Fig. 6) having a speech processing unit 658 and a main central processing unit 668. Voice audio signals are processed and parsed by the speech processing unit 658 to identify corresponding digital commands for communication to the main CPU 668. (Col. 9, lines 44-48). The Examiner cites the '309 *Attias* reference as teaching the additional step of clarifying a portion of an audio signal representative of a voice audio command by utilizing at least one additional audio signal such as the technique of blind source separation.

Amendments to Claim 24 are intended to clarify and better set forth the claimed method. The amended method of Claim 24 requires communicating only the clarified portions of audio signals representative of voice commands to software resident in the

central processing unit of a vehicle wheel alignment system. The clarified portions of the audio signals are then processed by the software at the central processing unit to identify spoken commands, eliminating the step of pre-processing or parsing of the audio signals in a separate speech processor as taught by the '971 *Rigsby et al.* reference.

Accordingly, the combination of the '971 *Rigsby et al.* and '309 *Attias* references fails to teach or suggest all of the required steps of method Claim 24, and as such, Claim 24 is believed allowable under 35 U.S.C. § 103(a).

b.   Claims 6

The rejection of Claim 6 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 5,799,278 to *Cobbett et al.* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 6 depends directly from Claim 1, and accordingly includes the limitation of Claim 1 requiring a central processing unit configured with at least one software object to process data representative of voice audio input to identify one or more spoken commands. As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). Processing of voice audio input from the microphone 10 to identify individual spoken commands is handled by the speech processor module 58, which then communicates

digital signals representative of identified spoken commands to the main CPU 68. (Col. 3, lines 46-52; Col. 4, lines 8-41). Hence, in the '428 *Casby et al.* reference, the task of processing voice audio input to identify one or more spoken commands is handled by the discrete speech processor module 58, and not by software modules in the main CPU 68.

Dependent Claim 6 is therefore believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 1.

c.   Claim 25

The rejection of Claim 25 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 5,799,278 to *Cobbett et al.* is respectfully traversed.

Amendments to Claim 25 are intended to clarify and better set forth the claimed method. Specifically, Claim 25 requires that voice audio signals received from a microphone are communicated to a central processing unit, where they are processed to identify phonetically distinct voice commands, which are then acted on by the central processing unit.

As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). Processing of voice audio input from the microphone 10 to identify individual spoken commands is handled by the speech processor module 58, which then communicates digital signals representative of identified spoken commands to the main CPU 68. (Col. 3, lines 46-52;

Col. 4, lines 8-41). Hence, in the '428 *Casby et al.* reference, the task of processing voice audio input signals to identify one or more spoken commands is handled by the discrete speech processor module 58, and not by software modules in the main CPU 68.

While the combination of the '278 *Cobbett et al.* reference with the teachings of the '428 *Casby et al.* reference may suggest to one of ordinary skill in the art the use of phonetically distinct voice commands in combination with the steps of processing incoming voice signals in a speech processor module and conveying associated digital representations to a main CPU for a responsive action, it fails to render obvious under 35 U.S.C. § 103(a) the method of Claim 25 wherein processing of the incoming voice signals is carried out at the central processing unit, eliminating the steps of processing at a separate speech processor and conveying associated digital representation. As such, Claim 25 is believed allowable under 35 U.S.C. § 103 over the cited references.

d.   Claim 2

The rejection of Claim 2 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,654,683 B2 to *Jin et al.* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 2 depends directly from Claim 1, and accordingly includes the limitation of Claim 1 requiring a central processing unit configured with at least one software object to process data representative of voice audio input to identify one or more spoken

commands. As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). Processing of voice audio input from the microphone 10 to identify individual spoken commands is handled by the speech processor module 58, which then communicates digital signals representative of identified spoken commands to the main CPU 68. (Col. 3, lines 46-52; Col. 4, lines 8-41). Hence, in the '428 *Casby et al.* reference, the task of processing voice audio input to identify one or more spoken commands is handled by the discrete speech processor module 58, and not by software modules in the main CPU 68.

Dependent Claim 2 is therefore believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 1.

e.   Claim 8

The rejection of Claim 8 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias et al.* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 8 depends directly from Claim 1, and accordingly includes the limitation of Claim 1 requiring a central processing unit configured with at least one software object to process data representative of voice audio input to identify one or more spoken

commands. Claim 8 adds the further limitation of an audio processor module configured to receive multiple audio signals, and which is adapted to utilize the multiple signals to provide data representative of voice audio input to the central processing unit for subsequent processing to identify one or more spoken commands.

As is clearly shown in Figure 4 of the '428 *Casby et al.* reference, the console 44 includes two separate and discrete processors; a speech processor module 58 (such as a Motorola DSP 56002) and a main CPU 68 (such as an Intel 80386). Processing of voice audio input from the microphone 10 to identify individual spoken commands is handled by the speech processor module 58, which then communicates digital signals representative of identified spoken commands to the main CPU 68. (Col. 3, lines 46-52; Col. 4, lines 8-41). Hence, in the '428 *Casby et al.* reference, the task of processing voice audio input to identify one or more spoken commands is handled by the discrete speech processor module 58, and not by software modules in the main CPU 68.

Dependent Claim 8 is therefore believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 1.

f.   Claim 10

The rejection of Claim 10 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias et al.* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 10 depends directly from Claim 8, and indirectly from independent Claim 1, and accordingly, is believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 1.

g.   Claim 13

The rejection of Claim 13 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias et al.* is respectfully traversed.

The Examiner's stated basis for the rejection is that the '428 *Casby et al.* reference disclosed a vehicle wheel alignment system having a central processing unit for controlling the operation of the system, and which is configured to identify one or more spoken commands from received voice audio input. The Examiner cites to element 44 of Figure 4 as support for this position. The '309 *Attias et al.* reference is further cited for disclosing a system configured with a plurality of microphones.

An analysis of the teaching of the '428 *Casby et al.* reference clearly illustrates fundamental differences with the claimed invention. The system of the '428 *Casby et al.* reference includes a console (44) or housing, within which is disposed a speech processor module (58) operatively coupled to a main central processing unit (68) via a system bus, as shown in Figure 4. The speech processor module is configured to receive audio input signals, (multiple input signals when combined with the '309 *Attias et al.* reference), to process the audio input signals, and to identify individual voice commands from the processed audio signals. Digital instructions corresponding to the identified individual voice commands are then communicated via the system bus to the main central processing unit 68, where they are carried out. (Col. 4, lines 8-25).

In contrast, the system of Claim 13 requires that audio input from multiple microphones be received at an audio processor module, which is configured to extract the voice audio input from the combined audio signals, and to convey the voice audio input, without processing or parsing for individual voice commands, to a central processing unit. The central processing unit of Claim 13 is configured to identify one or more spoken commands from the received voice audio input.

Since the combination of the '428 *Casby et al.* reference with the '309 *Attias et al.* reference fails to teach or suggest a vehicle wheel alignment system having a central processing unit configured to identify one or more spoken commands from a received voice audio input extracted from a plurality of combined audio input signals, Claim 13 is believed allowable under 35 U.S.C. § 103(a) over the cited references.

h.　Claim 14

The rejection of Claim 14 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias et al.* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 14 depends directly from independent Claim 13 and accordingly is believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 13.

i. Claim 16

The rejection of Claim 16 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias et al.* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 16 depends directly from independent Claim 13 and accordingly is believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 13.

j. Claim 22

The rejection of Claim 22 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias et al.* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 22 depends directly from independent Claim 18 and accordingly is believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 18, as previously discussed.

k. Claim 9

The rejection of Claim 9 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias*

et al., and further in view of U.S. Patent No. 5,764,778 to *Zurek* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 9 depends directly from Claim 8, and indirectly from independent Claim 1, and accordingly, is believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 1.

l.   Claim 11

The rejection of Claim 11 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias et al.*, and further in view of U.S. Patent No. 6,618,485 to *Matsuo* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 11 depends directly from Claim 8, and indirectly from independent Claim 1, and accordingly, is believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 1.

m.   Claim 15

The rejection of Claim 15 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,085,428 to *Casby et al.* in view of U.S. Patent No. 6,185,309 to *Attias*

et al., and further in view of U.S. Patent No. 6,618,485 to *Matsuo* is respectfully traversed.

Dependent claims are non-obvious under 35 U.S.C. § 103 if the independent claims from which they depend are non-obvious. *In re Fine*, 5 USPQ2d 1597, 1600 (Fed. Cir. 1988).

Claim 15 depends directly from independent Claim 13 and accordingly is believed allowable over the combination of the cited references under 35 U.S.C. § 103 for the same reasons as independent parent Claim 13, as previously discussed.

3. *Conclusion*

Based on the foregoing, the allowance of claims 1-25 is requested.

If for any reason the Examiner is unable to allow the application on the next Office Action and feels that an interview would be helpful to resolve any remaining issues, the Examiner is respectfully requested to contact the undersigned attorney for the purpose of arranging such an interview.

Respectfully submitted,

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